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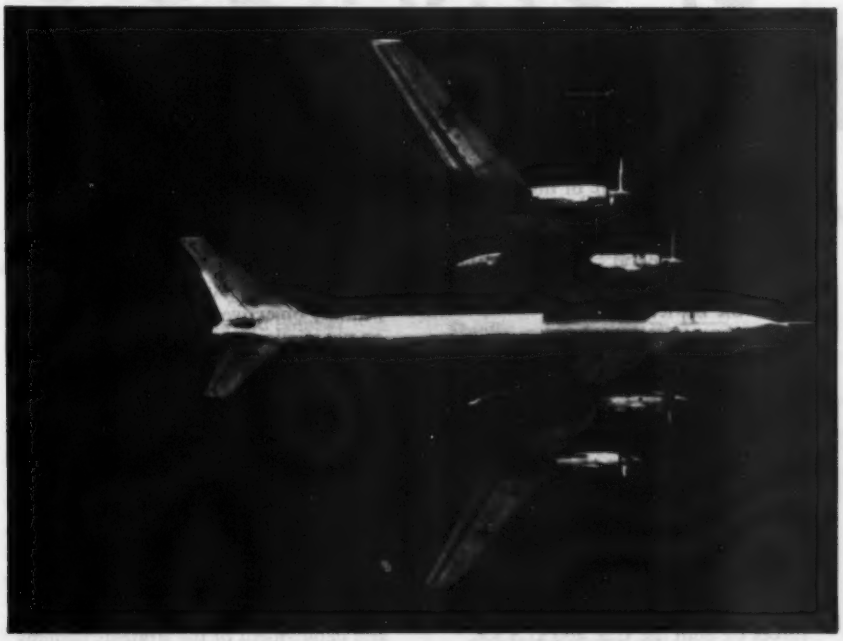


the Dynamic Balance of Strategic Power

US and USSR ICBM Forces
US and USSR SLBM Forces
US and USSR Strategic Bomber Forces
US and USSR Strategic Offensive Balance
US and USSR Strategic Defense Forces
PRC Strategic Forces

the DYNAMIC BALANCE of STRATEGIC POWER

by
Adm. Thomas H. Moorer, USN
Chairman, Joint Chiefs of Staff

The military posture of the United States can be judged meaningfully only by relating our military forces—both strategic and general purpose—to those of our most powerful potential adversary—the Soviet Union.

In this regard, the negotiation and signing of the treaty on the limitation of anti-ballistic missile systems (ABM Treaty) and the interim agreement on certain measures with respect to the limitation of strategic offensive arms (Interim Agreement) constituted first steps in our effort to restrain the obvious and destabilizing momentum of the U.S.S.R. strategic force buildup and to establish some control over the deployment of significantly increased strategic forces by both the U.S. and U.S.S.R. The force levels for the U.S. and U.S.S.R. established by the ABM Treaty are equivalent, but the numerical intercontinental ballistic missile (ICBM) and submarine launched ballistic missile (SLBM) force levels authorized for the Soviet Union by the Interim Agreement are larger than those authorized for the United States. Because of technological and other strategic offensive advantages possessed by the United States, this temporary imbalance was considered acceptable, particularly when weighed against the advantages of reaching some agreement on limiting strategic arms.

In the joint resolution authorizing the acceptance of these agreements, however, you will recall that the Congress specified the President should seek a future agreement which "would not limit the United States to levels of intercontinental strategic forces inferior to the limits provided for the Soviet Union." Compliance with this Congressional mandate is a primary objective of the current follow-on negotiations to conclude a permanent agreement.

I report to you today that aggressive modernization programs, which could place the United States in a position of strategic inferiority in the foreseeable years ahead, now are being undertaken by the Soviet Union. These programs, although aggressive, are within the terms of the Interim Agreement now in effect. If we are to maintain our relative position, we must continue the development and deployment of the strategic systems requested by the President and must continue to insist upon the equivalence which the Congress so wisely has called for as an ultimate goal in our Strategic Arms Limitations negotiations.

With regard to the balance between the general purpose forces of the Soviet Union and the United States, I have noted with apprehension for the past several years that a major shift in the naval balance is taking place. The U.S. still has the edge with regard to the projection of our naval power as a result of the global reach of our fleets through our carrier and amphibious task forces. The U.S.S.R., however, is building a modern and increasingly powerful naval force capable of interdicting sea lines of communication and obstructing this projec-

tion of our military power across the oceans to assist our allies. The exact role of the new Soviet carrier force is not clear, but we may be sure that it portends a new era in the projection of seapower by the U.S.S.R.

The tactical air forces of the Soviet Union are in the midst of a major and significant modernization program. The program appears to be directed at overcoming the long-standing qualitative advantage held by U.S. tactical air forces in the ground attack role. The Soviet tactical air forces hold major quantitative and some qualitative advantages in the air superiority role.

The Soviet weapons and equipment observed in the Middle East, together with other evidence, clearly show that the large U.S.S.R. ground forces also are being modernized with new tanks and new combat vehicles, as well as new and sophisticated combat support weapons and systems. Additionally, there are indications that the Soviet Union is developing air mobile units with ground attack helicopter support which, when combined with its new tanks and combat vehicles, will increase the tactical mobility and firepower of its ground forces.

The strategic programs of the People's Republic of China (P.R.C.), by contrast, are proceeding somewhat slower than estimated last year. We still expect the People's Republic of China, however, to deploy by the end of this decade a small, but effective, ICBM force which will be capable of striking all of the Continental United States. P.R.C. general purpose forces are being modernized, but also at a relatively slow rate—when compared with those of the U.S. and U.S.S.R. Nevertheless, the People's Republic of China is continuing to increase its overall military power.

Events of the past few months in the Middle East once again have proven that the military balance must be assessed on the capabilities of potential adversaries rather than on their announced or estimated intentions. Intentions change much more quickly than capabilities and often change solely on the basis of the opportunities that a lack of opposing capability presents. Therefore, the only sound course of action for our future defense planning is to analyze, as best we can, the military balance between the United States and opposing forces based on the capabilities of existing forces projected over the next few years.

Before going further, I would like to remind you of the principal caveats.

Five Year Defense Program

First, the U.S. force data are drawn from the currently projected Five Year Defense Program. U.S.S.R. and P.R.C. data are based on the latest intelligence estimates and projections. Both U.S. force data and U.S.S.R. estimates assume that the ABM Treaty and the Interim Agreement will remain in force for the next five years.

Second, the intelligence organizations can estimate with a fair degree of precision the forces our opponents will have operational in the next year or two. Beyond that point, the estimates become less certain.

Third, while the intelligence organizations cannot predict quantitative deployments very far into the future, they can provide a good indication of the kinds of weapons systems which may be deployed several years from now.

Finally, some degree of personal judgment cannot be avoided in comparing the military posture of one nation with another. Consequently, some of my colleagues may disagree with me on specific details, but I believe there is a general consensus within the Defense Department on the fundamental aspects of these comparisons. I will give somewhat more attention to the ongoing initiatives of the U.S.S.R. and P.R.C. than to those of the U.S.

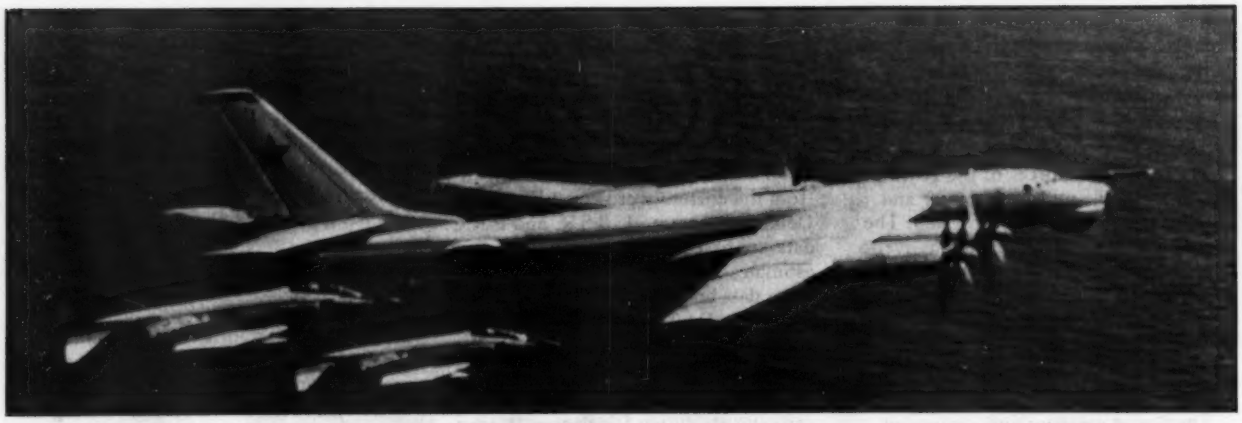
Strategic Forces

I have emphasized in the past that no task is more important, from a military perspective, than that of developing, maintaining, and protecting a credible strategic deterrent. Detente, offering the opportunity for relaxation of tension, requires that we be strong enough to negotiate with confidence and to insure that our good will is not misconstrued as lack of will, thereby encouraging confrontation. This task presents many challenges because, in making an assessment of the military capabilities of our potential adversaries, we cannot afford to look only at the capabilities of those forces in being today. The long lead time of modern strategic weapon systems demands that we also devote our best efforts

SIGNIFICANT US & USSR INITIATIVES
STRATEGIC OFFENSIVE SYSTEMS

US		USSR
	ICBM	
MINUTEMAN III		SS-X-16
SILO MODIFICATION		SS-X-17
		SS-X-18
		SS-X-19
		NEW SILOS
		SS-11 MRV
		SILO MODIFICATION
	SLBM	
POSEIDON CONVERSION		SS-N-8
TRIDENT		DELTA
C-4		SS-N-6 IMPROVEMENTS
	BOMBERS	
B-1		
B-52 MODIFICATIONS		BACKFIRE

CHART NO 1



Two U.S. Navy F-4 Phantom II fighter aircraft from Fighter Squadron 213 (VF-213) fly alongside a Soviet TU-20 Bear bomber. The event took place while the attack aircraft carrier USS Kitty Hawk was underway in the Pacific Ocean.

to the evaluation of the relative military balance as it is likely to evolve in the years ahead and as it is likely to be perceived in the eyes of our potential adversaries, our allies, and the rest of the world. If we are to maintain a credible strategic deterrent, actual military strength is essential, but the appearance of military strength cannot be neglected.

Strategic Offensive Systems

Shown on Chart 1 are the ongoing U.S. and U.S.S.R. strategic offensive initiatives which will have significant impact on the strategic balance. I will highlight these initiatives so that the dynamic nature of military balance for the foreseeable future can be fully understood.

The Soviet Union clearly has embarked on an unprecedented major commitment to the modernization of its strategic offensive force.

- Four new ICBM designs of varying classes and characteristics currently are being flight tested. These new systems will incorporate improved launch, guidance, and reentry techniques, which will permit the U.S.S.S.R. to introduce accurate multiple independently-targetable reentry vehicles (MIRV) into its missile inventory. A corollary of these significant new missile programs is the parallel construction and modification of hardened silos, capable of surviving appreciably higher overpressures and ground shocks. Additionally, a multiple reentry vehicle (MRV) version of the SS-11 is being deployed rapidly in some of these new silos for "light" ICBMs.
- The U.S.S.R. has moved forward rapidly in modernizing its SLBM force. The new 4200 nautical mile (nm) SS-N-8 has been deployed aboard the first three Delta-class submarines—now in series production. Improvements for the SS-N-6, the SLBM deployed aboard Yankee-class submarines, may be nearing operational status. This new MRV variant of the SS-N-6 is expected to have a slightly longer range and may be deployed in Yankee-class submarines.
- We are uncertain as to the exact military role of the new Backfire variable-geometry wing, supersonic bomber. It is certainly capable of performing intercontinental attack missions, but it is probably best suited for peripheral attack. We anticipate that it will be assigned both roles.

In contrast to the Soviet Union's dramatic program, ongoing U.S. initiatives in the strategic arena are modest and deliberate. The United States does not have any new ICBM systems under engineering development, but it is carrying out advanced development work on improved ICBM technology. Continued improvements also are being made in both Minuteman II and III systems. By the end of FY 1975, all Minuteman I's will be replaced by Minuteman IIIs. Additionally, the hardness of Minuteman II and III missiles and silos is being upgraded, and a Command Data Buffer system is being installed to permit the rapid remote retargeting of Minuteman III missiles. These improvements are designed to increase further the survivability, flexibility and responsiveness of our Minuteman force.

As was noted last year, the last of the Polaris A-2 SLBMs will be phased out of the U.S. force by mid-1974. By mid-1977, the planned Polaris-to-Poseidon conversion program will have been completed. At that time, we will have 31 Poseidon submarines and 10 Polaris A-3 submarines. The first Trident submarine, with the new 4000 nm C-4 missile, is expected to enter the force in FY 1979.

The B-1, which is being developed as a replacement for a portion of the B-52 force in the 1980s, will begin flight testing this fall. The results of the flight testing will be examined carefully prior to a production decision being made next year. In the meantime, funds are included in the FY 1975 budget request for modification of 80 B-52D bombers to insure their availability until the B-1 is capable of entering the force in adequate numbers to allow for retirement of the B-52D.

U.S., U.S.S.R. ICBM Forces

Shown on Chart 2 are the principal U.S. and U.S.S.R. ICBMs currently deployed. Before discussing the individual characteristics of these ICBM systems, a brief review of the Interim Agreement on Strategic Offensive Arms is appropriate so that the operating international legal constraints applicable to the U.S. and U.S.S.R. may be recalled.

At the bottom of Chart 2 are the numbers of ICBM launchers that we associate with the Interim Agreement. The numbers in parentheses indicate the

U.S. estimate of new U.S.S.R. silos under constructition on the date the agreement was signed.

The Interim Agreement establishes limitations on the deployment of strategic forces by both the U.S. and U.S.S.R. Both parties are limited to a relatively large, but unequal, number of fixed land-based and submarine-launched strategic offensive ballistic missile launchers. With but one important exception (i.e., the size of ICBM silos), the Interim Agreement places no significant constraints on the qualitative characteristics of the missiles or the launchers. Moreover, it is also important to recall that the agreement places no limitation on other types of strategic offensive weapons (e.g., long-range bombers, cruise missiles, and air- and sea-based mobile launchers—other than on submarines).

Under the Interim Agreement, ICBM launchers are classified by age and size. The year 1964 divides launchers for modern ICBMs from "older" types deployed prior to that date (e.g., SS-7, SS-8, and Titan II). There is no agreement on a general definition of "heavy," but a unilateral U.S. statement provides that a "heavy" ICBM is an ICBM having a volume significantly greater than that of the largest "light" ICBM operational on either side at the time the Interim Agreement was signed. Therefore, under this definition the SS-11, SS-13, and Minuteman are "light" ICBMs. No additional fixed, land-based ICBM launchers may be constructed by either party after the freeze date of July 1, 1972; but modernization and replacement may be undertaken.

The agreement prohibits converting any of the "older" or "light" launchers into launchers for modern "heavy" ICBMs, but SLBM launchers may be substituted for the "older" launchers, if desired. Under the terms of the agreement, therefore, the U.S. could "modernize" all of its 1,000 Minuteman and its 54 Titan II launchers to Minuteman III or any other modern "light" ICBM; but it could not replace any of the Titan II or Minuteman launchers with modern "heavy" ICBMs. Similarly, the U.S.S.R. could "modernize" all of its ICBMs, but only the 313 SS-9 associated launchers (288 operational SS-9s and 25 new silos under construction in SS-9 complexes at the time the agreement was signed) can be converted to new "heavy" ICBMs.

All of the 1,030 SS-11 and SS-13 launchers, operational at the time the agreement was signed, may be modernized for new "light" ICBMs. New "light" ICBMs also may be installed in the 66 new silos, under construction at the time of the agreement, provided the dimensions of the launcher are not increased by more than 10-15 percent. As I already have mentioned, the 209 "older" SS-7 and SS-8 launchers (and 54 U.S. Titan II launchers) may be replaced by SLBM launchers.

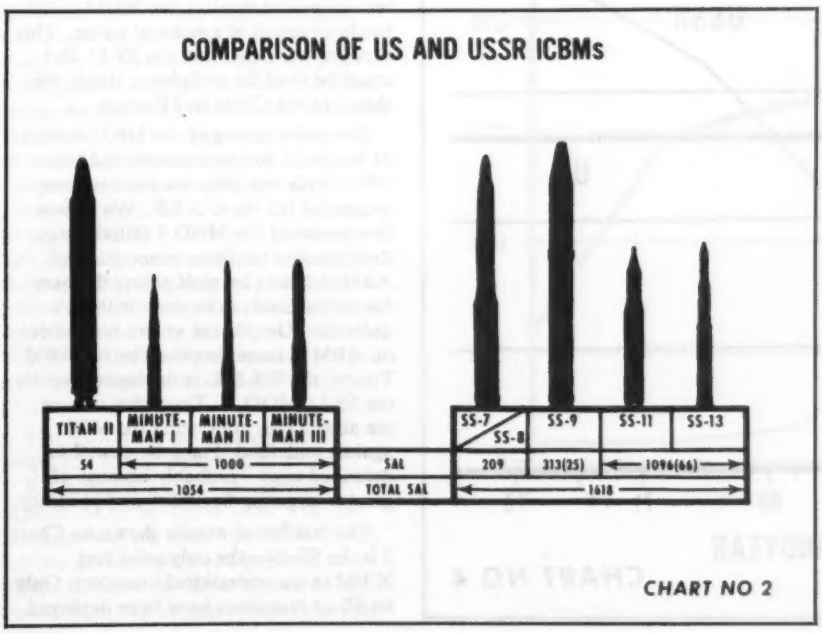
These "older" SS-7s and SS-8s, deployed in both hard and soft sites, are the first Soviet ICBMs shown on Chart 2. We believe that the Soviet Union will substitute SLBM launchers, under the terms of the Interim Agreement, for some or all of these launchers. Before this is done, we consider that we should receive timely notification through the Standing Consultative Commission.

The SS-9 is a very large ICBM with four different versions. The SS-9 MOD 2 has a single reentry vehicle (RV) with the largest yield of any known ICBM and constitutes the bulk of the SS-9 force. The MOD 1 also has a single RV with a slightly smaller yield; however, only a relatively small number has been deployed. These two missiles are the only operational Soviet ICBMs with the combination of yield and accuracy needed to attack hard targets effectively, but there are insufficient numbers of these missiles deployed to constitute a significant threat to our total Minuteman force.

The enigmatic SS-9 MOD 3 has been tested both in a depressed trajectory mode and as a fractional orbital bombardment system (FOBS). The last test was over two years ago, and there is still substantial question as to its exact capabilities, mission, and extent of operational deployment. We do not believe the MOD 3 has been deployed at any of the regular SS-9 complexes.

The MOD 4 has received more attention in recent years than any other version of the SS-9 because it has provided us with the clearest indication of the Soviet Union's determination to develop MIRVs. Two years ago I reported on the abrupt termination of MOD 4 testing as follows:

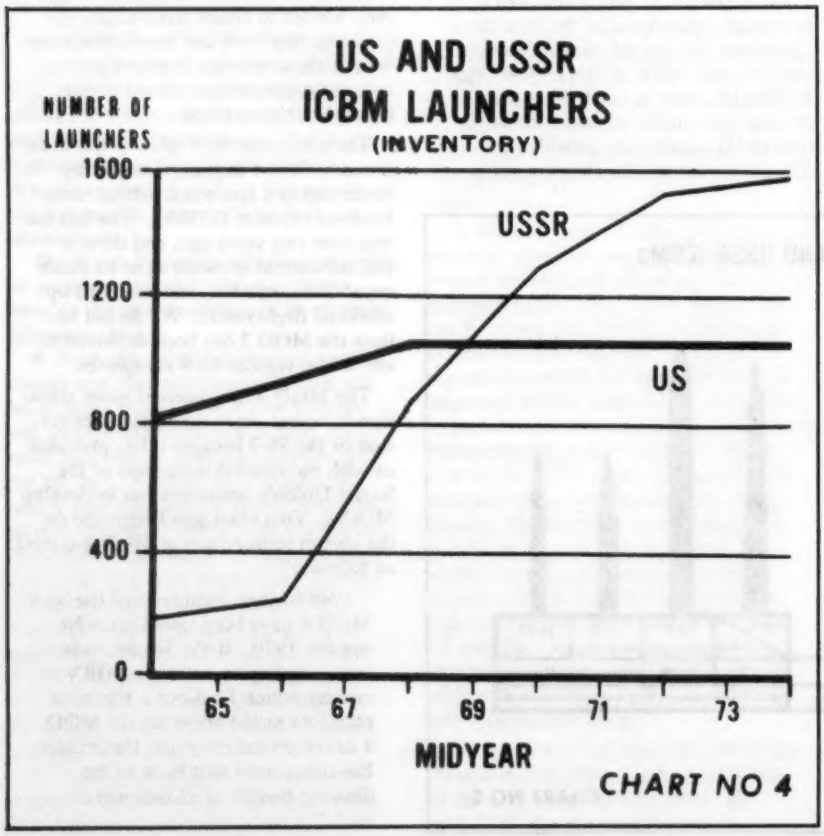
> "No further flight-tests of the SS-9 MOD 4 have been noted since November 1970. If the Soviets were indeed trying to develop a MIRV system, which I believe is the most plausible explanation for the MOD 4 development program, the project has either been sent back to the drawing boards or abandoned as such."



NEW USSR ICBMs

	SS-X-16	SS-X-17	SS-X-18	SS-X-19
FOLLOW-ON	SS-13	SS-11	SS-9	SS-11
RANGE (NM)	OVER 5000	OVER 5500	OVER 5500	OVER 5500
MIRV WARHEAD	PROBABLE	YES	YES	YES
ESTIMATED NUMBER OF MIRVs	?	4	5-8	4-6
DIGITAL COMPUTER	YES	YES	YES	YES
IOC	1975	1975	1975	1975

CHART NO 3



In January of last year, 26 months after testing had stopped, a new MOD 4 test was detected. The three RVs carried were of a much different design and were equipped with parachutes to insure a soft landing and recovery. More R&D tests of the MOD 4 were carried out in 1973, and some improvement in targeting flexibility has been noted. But in view of the progress made on the improved "heavy" ICBM, the SS-X-18, it remains questionable whether the U.S.S.R. will develop the MOD 4 into a MIRV system. It could be deployed, of course, on a very limited basis as an MRV rather than a MIRV.

Soviet military planners probably view the SS-11 as their counterpart to our Minuteman. The SS-11 has a slightly higher yield, but is considerably less accurate, than the Minuteman. Comparable numbers of SS-11s also have been deployed.

Three versions of the SS-11 have been tested, but only the MOD 1 and MOD 3 have been deployed. Our evidence indicates that the MOD 2 program probably has been terminated. Neither the single RV MOD 1 or the MRV MOD 3 has the proper combination of yield and accuracy to threaten Minuteman or to be effective against other hard targets.

The SS-11 MOD 1 has been operational since 1966. In addition to its intercontinental mission, the MOD 1 also has been tested at a reduced range. This supports the belief that the SS-11 also could be used for peripheral attack missions against China and Europe.

Extensive testing of the MRV version of the SS-11 has been conducted since 1969. This test program has been very successful for the U.S.S.R. We believe that probably the MOD 3 initially was developed to facilitate penetration of ABM defenses by multiplying the number of warheads to be dealt with by a defender. Despite the severe restrictions on ABM defenses imposed by the ABM Treaty, the U.S.S.R. is deploying rapidly the SS-11 MOD 3. Therefore, it must see advantages in utilizing the MOD 3 against undefended targets, as well as defended ones—probably because of greater targeting flexibility and accuracy.

The last Soviet missile shown on Chart 2 is the SS-13—the only solid fuel ICBM in the operational inventory. Only 60 SS-13 launchers have been deployed.

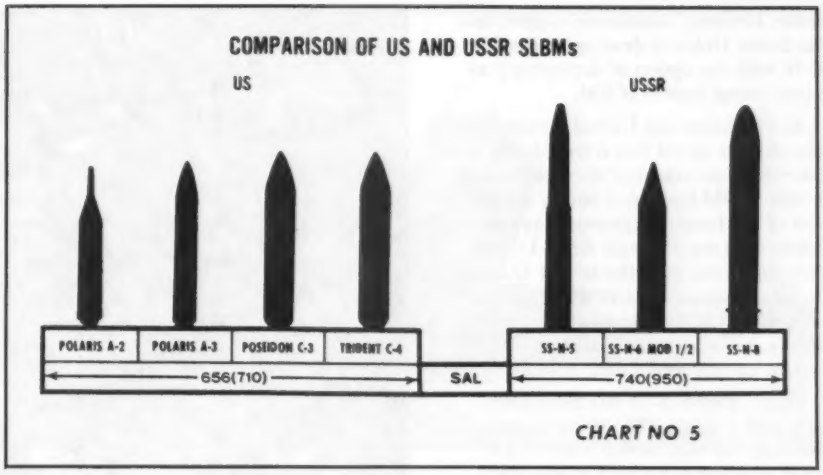
As I have already indicated, all of our Minuteman Is will have been phased out by mid-1975. At that time, our ICBM force will consist of 550 Minuteman IIIs, 450 Minuteman IIs, and 54 Titan IIs.

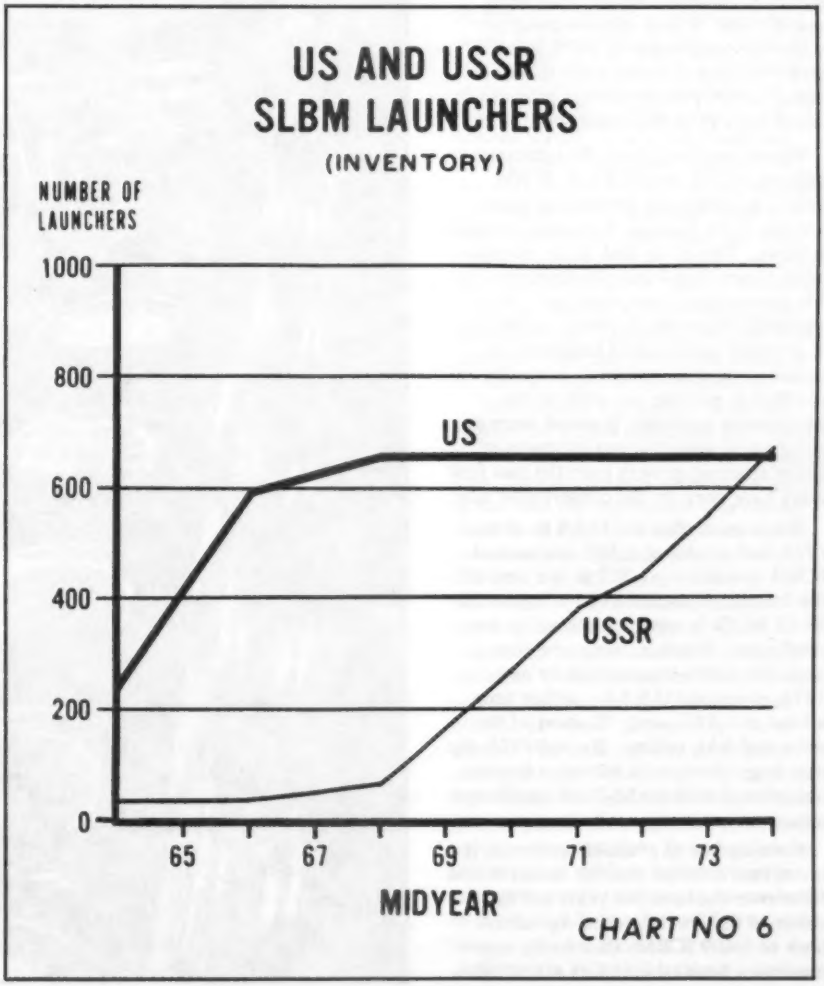
We do not have sufficient information, as yet, on the four new U.S.S.R. ICBMs being tested to provide physical comparisons of them, similar to those shown on Chart 2 for currently deployed ICBMs. We do have estimates of some of the important characteristics, as you will note from Chart 3.

The SS-X-18 now being tested at Tyuratam is a large, two-stage, liquid propellant ICBM. It probably is intended as a follow-on to the SS-9. The most significant new characteristic of the SS-X-18 is the addition of a bus-type MIRV system with an on-board digital computer. This new post-boost vehicle (PBV) is similar to the one employed in our Minuteman III and Poseidon. We believe the SS-X-18s probably will have the capability of dispensing five to eight independently targeted warheads. Increased accuracy is a definite goal of the new test program. Finally, we cannot rule out a single RV option for the SS-X-18. Recent tests have employed a single RV, thus indicating a continuing interest in a large warhead with greater accuracy.

As you can see from Chart 3, the SS-X-17 and SS-X-19 are both considered follow-on missiles to the SS-11. Since these are very extensive test programs for expensive systems, they may be competing designs, with only one to be chosen for ultimate deployment as a follow-on to the S-11. We believe that a similar competitive design and flight test program was employed prior to the decision to deploy the SS-9. It would be premature at this time, however, to rule out the possibility that both may become operational. Both systems have on-board computers and have been tested with MIRV warheads. We estimate that one or both of these systems could be deployed in 1975.

The SS-X-16 is the only new solid propellant ICBM being tested by the U.S.S.R. and is a logical successor to replace the 60 SS-13s in silos. The SS-X-16 is about the same size as the SS-13, but has greater range and payload capability. We have no direct evidence that the SS-X-16 will be deployed in a mobile





mode; however, indications suggest that the Soviet Union is developing the SS-X-16 with the option of deploying it as a land-based mobile ICBM.

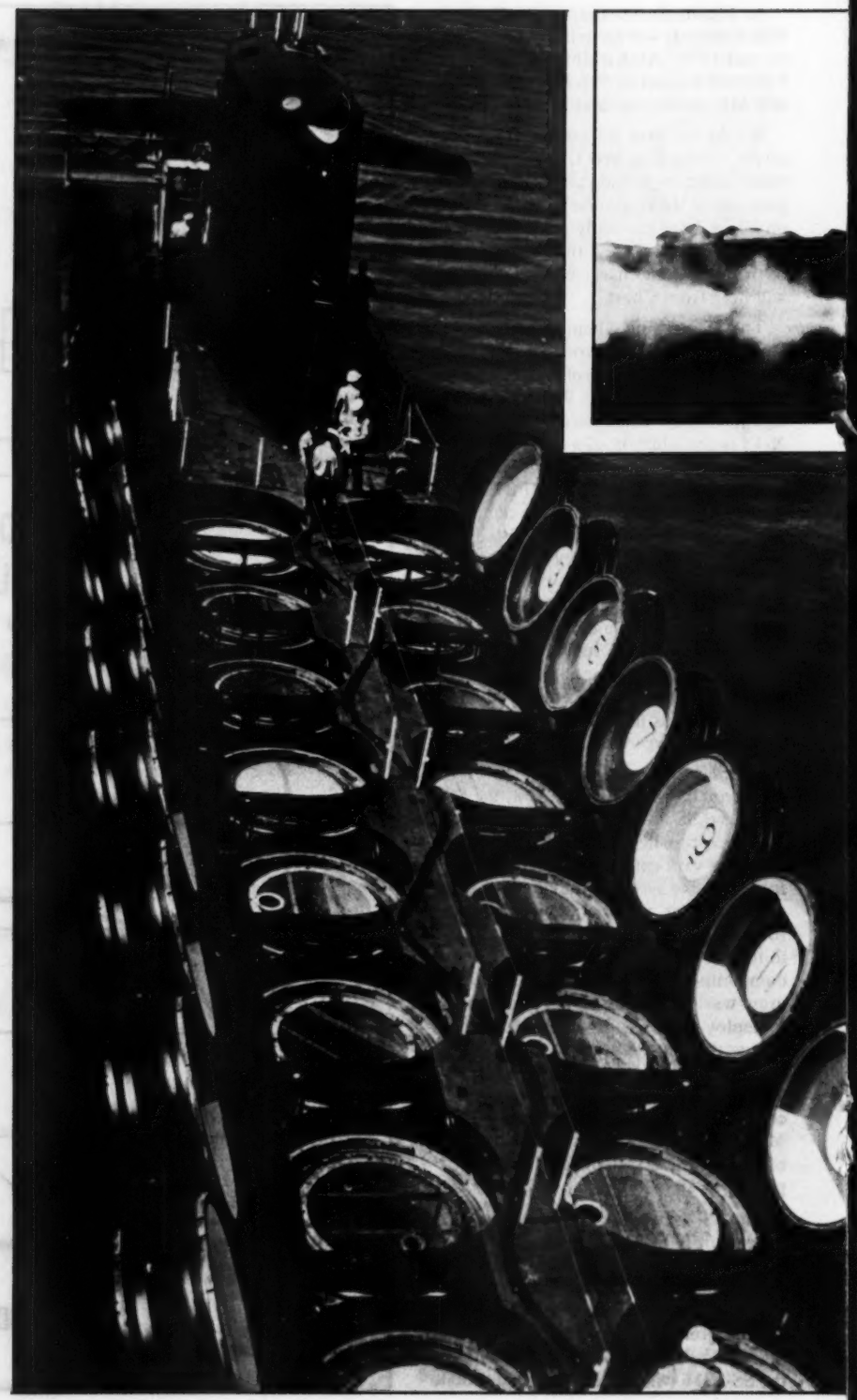
As you know, the United States unilaterally has stated that it would consider the deployment of operational land-mobile ICBM launchers during the period of the Interim Agreement as inconsistent with the Strategic Arms Limitation objectives, even though the U.S.S.R. would not agree to restricting deployment of mobile ICBMs. Development and testing, however, of a land-mobile ICBM system are not prohibited.

So far, the SS-X-16 has been tested only with a single RV. Nonetheless, there are indications that the U.S.S.R. plans to develop a MIRV payload for the SS-X-16 similar to the other three new ICBMs. Either version could be ready for deployment in 1975, but if a MIRV version is planned for this time frame, a high priority testing program would have to be instituted soon.

Shown on Chart 4 are the latest projections of U.S. and U.S.S.R. ICBM forces, assuming the limitations incorporated in the Interim Agreement remain in effect. This is the first of the quantitative charts that I initially developed for this presentation four years ago. As I repeatedly have noted, there is a degree of personal professional judgment included in these assessments; however, in an effort to provide you with all the information available, it would seem appropriate to note that our estimates of Soviet strategic growth over the past four years have been on the conservative side.

We estimate that the U.S.S.R. at mid-1973, had a total of 1,547 operational ICBM launchers—1,527 at the time of the Interim Agreement in 1972, plus 20 SS-11 MOD 3s now operational in new small silos. The remaining new silos probably will be operational by mid-1974, giving the U.S.S.R., at that time, a total of 1,587—only 31 short of the estimated SAL ceiling. By mid-1975, the new large silos are estimated to become operational with the SS-X-18 missile system.

Considering all available evidence, it is our best estimate that the Soviet ICBM force over the next five years will be closer to the lower Interim Agreement limit of 1,409 ICBMs than to the upper maximum limit of 1,618. (1,409 ICBMs



At left, the USS Sam Rayburn, nuclear ballistic missile submarine, opens the covers on the missile-firing tubes at the Newport News, Virginia, shipyard. Above is a Soviet Class G-1 ballistic missile submarine.

is the limit if all of the "older" ICBMs are replaced by SLBMs.) This is based on our belief that the U.S.S.R. will exercise its option to replace the older, less effective ICBMs with modern SLBMs. We also believe the remaining ICBMs will be modernized by replacing them with the new systems already described.

U.S. and U.S.S.R. SLBM Forces

Chart 5 provides a comparison of U.S. and U.S.S.R. SLBMs, all of which are operational except the Trident C-4. The C-4 SLBM is included because of its major importance to the military balance in the years ahead. The C-4 will have a range capability approximately double that of the Poseidon. The final design characteristics, of course, cannot be confirmed until the development process is completed and the missile is tested. Nevertheless, it will reflect significant technical and operational advances over the Poseidon. The initial operational capability (IOC) of the new missile will coincide with the completion of the first Trident submarine in late 1978.

The Trident C-4 missile also will be compatible with the Poseidon submarine. Backfit of this advanced SLBM can be accomplished during little more than a normal tender (repair ship) availability period for the Poseidon submarine. Plans are made to backfit Trident C-4 missiles in Poseidon submarines with an IOC for the first backfit in FY 1979.

It already has been noted that the current Polaris/Poseidon conversion program of 31 submarines will be completed in FY 1977. This will leave 10 Polaris A-3 submarines with 160 SLBMs and 31 Poseidon submarines with 496 SLBMs, for a total of 41 ballistic missile submarine (SSBNs) with 656 SLBMs in the force. We cannot exceed this number of SLBMs under the Interim Agreement without exercising the option to replace our Titan II with "modern" SLBMs. Under this option, we could have as many as 710 "modern" SLBM launchers on 44 "modern ballistic missile submarines."

Full funding for the first Trident submarine and advanced procurement funding for the second Trident submarine were appropriated last year. Completed funding for the second and third, plus advance funding for four more Trident submarines, in a 10-ship program, is being requested for FY 1975. I will not pursue the matter further, except to say that the Trident submarine, like the C-4 SLBM, will represent major technological and operational advances over our Poseidon submarine.

Turning to the SLBMs of the Soviet Union, the SS-N-8, which I indicated last year was soon to become operational, now has been deployed on at least three Delta-class submarines. It has the longest range (4,200 nm) of any operational SLBM. This extra range is significant when compared to the range of the SS-N-6 (1,300 nm), because it greatly enlarges the ocean space available for patrol while remaining within range of the United States. As a result, both our SLBM launch detection and antisubmarine warfare (ASW) search problems are magnified. In addition, there is tenuous evidence indicating that some Delta submarines now under construction are being lengthened. Should this extra length be used to accommodate additional SLBMs, a slightly modified Delta, equipped with more than the standard 12 SLBMs, may be in production.

The Interim Agreement limits the number of SLBM launchers and "modern ballistic missile submarines" to the numbers "operational and under construction" at the time the Agreement was signed. Additional SLBMs may become operational only as replacements for "older" ICBMs (e.g., SS-7s and SS-8s) or for SLBM launchers on older nuclear-powered submarines. By protocol, a negotiated "operational and under construction" baseline for the Soviet Union of 740 "ballistic missile launchers on nuclear-powered" submarines was accepted. The protocol also provides a ceiling for the U.S.S.R. of 950 modern SLBMs and 62 modern ballistic missile submarines in the event the replacement options are exercised. In any event, we estimate that modern ballistic missile submarines will continue to be produced by the U.S.S.R. at a rate of five to seven units a year for the next few years.

There are indications that the Soviet

Expanding Soviet naval forces provide Russia with expanded opportunities for world influence. Here, Soviet sailors march during a port visit to Massawa, Ethiopia.

Union already has embarked on a program to modernize the Yankee-class submarines—first deployed in 1968. In addition, as already indicated, a new longer-range MRV variant of the SS-N-6 is nearing operational status and may be deployed aboard Yankee-class submarines.

The latest projections of U.S. and U.S.S.R. SLBM launchers are shown on Chart 6. We estimate that the U.S.S.R. by mid-1974, will have a total of 666 SLBM launchers, excluding the 60 on 20 Golf-class submarines. These 60 launchers have been excluded from the U.S.S.R. strategic forces projections after mid-1972 since they are not considered "strategic missile forces" under the terms of the Interim Agreement. Instead, they are included in the Soviet "theater nuclear forces" after that date.

U.S. and U.S.S.R. Strategic Bomber Forces

Shown on Chart 7 are the U.S. and U.S.S.R. strategic bomber forces projected through mid-1974. In each of my past three military posture statements, I have reported to you on the progressive development of a new variable-geometry wing, supersonic bomber by the Soviet Union.

Throughout the development of this new Backfire bomber, there has been some uncertainty over its primary mission. The reason for this uncertainty stems from its design and flight characteristics, which place it in between our FB-111 and B-1. In comparison with U.S. intercontinental bombers, it weighs two and one-half times as much as an FB-111 and is about four-fifths as large as the B-1. Its non-refueled maximum combat radius is about 3,100 nm.

We estimate that the Backfire will be deployed operationally in 1974. Unrefueled, Backfire probably is best suited for a peripheral role. Nevertheless, when deployed with a compatible tanker force, Backfire constitutes a potential threat to the Continental United States. It is expected to replace some of both the current medium and heavy bombers, and to be employed on both peripheral and intercontinental missions.

Although the older medium bombers of the U.S.S.R. probably do not figure prominently in Soviet plans for an attack on North America, some could be used on two-way missions against targets in Canada and Alaska and on one-way missions against other parts of the United States. For this reason, I have projected the total bomber force of the U.S.S.R. on Chart 7.

In terms of just intercontinental bombers, the U.S. now has, and most likely will continue to have, at least into the 1980s, a substantial quantitative lead over the U.S.S.R., even after considering the deployment of a portion of the Backfires in an intercontinental role. As I already have noted, funds are included in this year's budget for additional modification of 80 B-52D bombers to insure

their continued availability until the B-1 could be capable of entering the force in adequate numbers to allow for B-52D retirement—probably the early 1980s.

The B-1 will begin flight tests late this year. A production decision will be made, after detailed evaluation of the four RDT&E aircraft—probably in late 1976. Under the current planning, the B-1 force could be operational in the early 1980s. The B-1 is the first bomber designed to have both a high pre-launch survivability and a high penetrating capability in a high-threat environment. It also will have a significant stand-off capability for attacking heavily defended targets with the short range attack missile (SRAM). On a comparable mission, it is expected to be able to carry significantly more payload than the B-52 and have a much greater penetration capability. We also believe that it will have important qualitative advantages over the Backfire in range, payload, and penetration capabilities. The B-1 represents a major technological advance over the B-52 and the FB-111, and I strongly recommend your continued support for this extremely important program.

Since the B-1 is not expected to enter the U.S. force until the 1980s, the U.S. intercontinental bomber force will continue to be composed of B-52s and FB-111s through the rest of this decade.

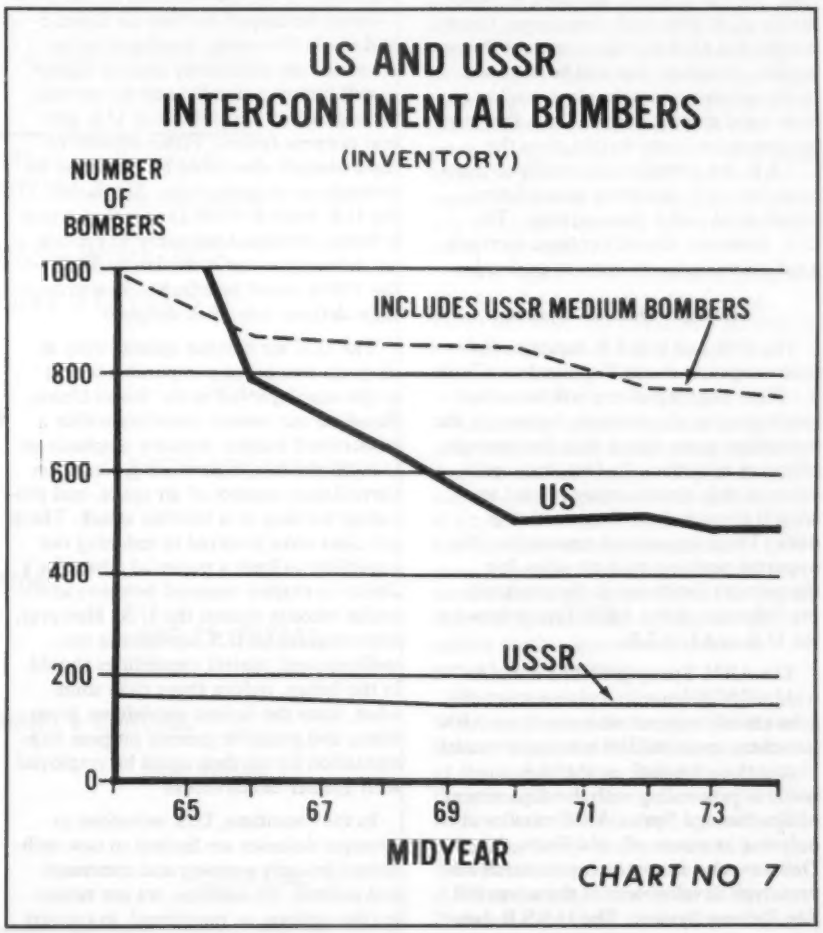
U.S., U.S.S.R. Strategic Offensive Balance

Four general measures have been used to summarize quantitatively the overall strategic offensive balance between the United States and the Soviet Union. These are: numbers of delivery vehicles, megatons, warheads, and throw-weight/payload. It should be understood, of course, that these measures, either singly or collectively, do not provide a complete comparison. There are a number of other factors, primarily qualitative in nature—such as warning, readiness, command and control, pre-launch survivability, accuracy, range, and penetration capability—which also must be borne in mind in assessing the strategic balance. These other factors cannot be reduced to a measurable common denominator suitable for graphic presentation. Some of the more significant factors in regard to individual weapons systems already have ben discussed in the Report of the Secretary of Defense and in this statement. Other factors will be addressed later in this analysis.

The total numbers of operational U.S. and U.S.S.R. strategic offensive delivery vehicles, projected through mid-1974, are shown on Chart 8. It should be noted than in this chart, only intercontinental bombers are included and only the operational ICBM launchers and the "operational" ballistic missile submarines are counted.

As can be seen on this chart, the U.S.S.R. has totally eliminated our overwhelming lead in delivery vehicles and now has surpassed us by over 100 operational delivery vehicles. This U.S.S.R. quantitative advantage over the U.S. is not expected to widen much farther over the next five years primarily as a result of SAL constraints. Moreover, the extensive modernization program of the Soviet Union will keep the exact number of operational ICBM launchers and deployable SLBMs in constant flux, but relatively level, as new construction is completed, old launchers are converted, and submarines are overhauled.

Ten years ago, the U.S. had five times the available megatonnage as the U.S.S.R. The U.S.S.R. has taken over the lead in strategic offensive megatons, and now far surpasses us in this measure of the strategic balance. The sharp drop in U.S. megatons from 1966 to 1970 reflects the reduction in heavy bombers and the substitution of smaller-yield for higher-yield weapons during that period. The decline, thereafter, reflects the substitution of lower-yield MIRVs for



higher-yield single RVs in our strategic missiles.

The U.S. is expected to maintain its substantial and significant lead over the U.S.S.R. in numbers of strategic offensive warheads and bombs. If the U.S.S.R. pursues a rapid modernization effort, this U.S. advantage could be greatly diminished, but not eliminated, over the next five or six years. On the other hand, if a slow modernization effort is pursued by the U.S.S.R., the U.S. lead probably will remain relatively constant and will continue to be very large at least during the next few years.

The U.S.S.R. has a distinct and demonstrable advantage in missile throw-weight, but the U.S. has a major advantage in bomber payload. The throw-weight advantage of the Soviet Union has been reflected in its large megatonnage lead. As the U.S.S.R. develops its new family of ICBMs with their larger throw-weight and MIRVs, this increased throw-weight advantage also will be reflected in the number of warheads as well as in large total megatonnage. Thus, the gross advantage in throw-weight gives the U.S.S.R. the potential eventually to overcome the only remaining quantitative missile lead under these criteria. The U.S., however, should continue to retain a substantial edge in bomber payload.

Strategic Defense Systems

The U.S. and U.S.S.R. strategic defensive initiatives are displayed on Chart 9. These ongoing efforts will have far less impact on the strategic balance in the immediate years ahead than the strategic offensive initiatives. In fact, the significance of this chart is more related to what it doesn't show than to what it does. There are several reasons for this apparent restraint on both sides, but the primary limitation is the constraining influence of the ABM Treaty between the U.S. and U.S.S.R.

The ABM Treaty prohibits a nationwide ABM defense and places strict and substantially equivalent controls on ABM launchers, missiles, and associated radars. Under these limitations, the U.S. currently is proceeding with the deployment of Spartan and Sprint ABM missiles at only one location—Grand Forks, North Dakota—and is continuing research and prototype development of the advanced Site Defense System. The U.S.S.R. has an operational Galosh ABM system around Moscow, with limited capabilities, and is doing research and development work on two new ABM systems.

Turning to air defense, the Soviet Union already has in being an extensive nationwide system employing surveillance, warning, and control systems, a variety of surface-to-air missiles, and a very large interceptor force. The Foxbat, now designated the MIG-25, adds a major capability to the Soviet air defense force. It is a Mach-3 all-weather interceptor and carries a new air-to-air missile. Since the optimum performance of the Foxbat seems to be at high altitudes, we believe that at least one of its primary roles will be against high-altitude, high-speed attackers, such as air-to-surface missiles.

Although the U.S. has no new strategic interceptors, the introduction of the F-14 —being developed for fleet air defense— and the F-15—being developed as an advanced air superiority tactical fighter —will improve significantly the overall air superiority capabilities of U.S. general purpose forces. Either or both of these aircraft also could be employed by strategic air defense units. Similarly, the U.S. austere SAM-D program, which is being developed primarily to provide air defense for the Army in the field in the 1980s, could be effective in a strategic defense role, if so assigned.

The U.S. air defense system, even at its peak, was never comparable in size to the one deployed in the Soviet Union. Based on our overall priorities within a constrained budget, primary emphasis in U.S. air defense is now being placed on surveillance, control of air space, and providing warning of a bomber attack. There are clear risks involved in reducing our capability to limit a potential adversary's ability to employ manned bombers and cruise missiles against the U.S. However, improvement of U.S. air defense surveillance and control capabilities should, in the future, reduce those risks somewhat, since the limited air defense force assets and available general purpose augmentation forces then could be employed with greater effectiveness.

In the meantime, U.S. initiatives in strategic defenses are limited to new technology in early warning and command and control. In addition, we are retaining the options, as mentioned, to convert new general purpose force interceptors and the SAM-D to strategic defense at a later date. Funds for procurement of the first U.S. initiative listed—SLBM Warning Radar—were rejected last year by the Congress because of a belief that "our present warning systems are adequate." A study of these systems has been initiated by the House Appropriations Committee "in order to adequately evaluate future requests of this nature from all the Services." I welcome this study because I have been convinced by several Joint Chiefs of Staff/Department of Defense studies and reviews that our SLBM warning systems are not adequate, particularly in light of the deployment of the Soviet 4,200 nm SS-N-8 SLBM.

The over-the-horizon backscatter (OTH-B) radar system is being developed by the U.S. to provide long-range surveillance, detection, and warning of aircraft from the surface to the ionosphere. Although a production decision has not as yet been made, it could be operational by the early 1980s. AWACS, the last U.S. initiative listed, stands for airborne warning and control system. This system consists of a new all-altitude surveillance radar with associated data processing and command and control equipment installed in a Boeing 707 airframe. By mid-1977, it should provide significantly improved surveillance capabilities with respect to radar detection, active and passive tracking of airborne objects, identification of aircraft, and interceptor control for our tactical and strategic defense air forces.

The U.S.S.R. is continuing its research and development of over-the-horizon (OTH) radar. Finally, the U.S.S.R. has a modified transport aircraft, called the Moss, which has been utilized in airborne warning and control since 1968. No new U.S.S.R. AWACS-type development has been noted.

U.S., U.S.S.R. Strategic Defensive Forces

The Galosh ABM system deployed around Moscow consists of four complexes; each with two Try Add engagement radar sites (one large target tracking radar, and two smaller interceptor tracking and guidance radars, per site), plus 16 Galosh missile launchers—for a total of eight Try Add radar sites and 64 operational launchers. (The ABM Treaty

US AND USSR OPERATIONAL STRATEGIC OFFENSIVE DELIVERY VEHICLES

(ICBM LAUNCHERS, SLBM LAUNCHERS, AND INTERCONTINENTAL BOMBERS)

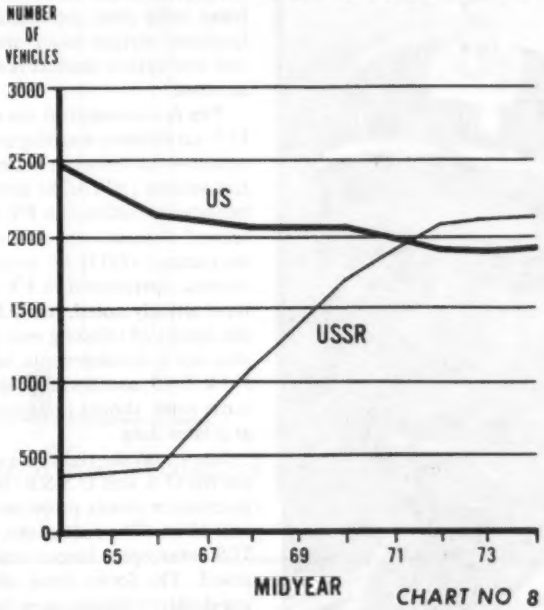


CHART NO 8

SIGNIFICANT US & USSR INITIATIVES STRATEGIC DEFENSIVE SYSTEMS

US	USSR
ABM	
SPARTAN/SPRINT SITE DEFENSE	2 NEW ABM SYSTEMS
INTERCEPTORS	
	MIG-25 (FOXBAT)
WARNING AND COMMAND & CONTROL	
SLBM WARNING RADAR OTH-B RADAR AWACS	OTH RADAR

CHART NO 9

authorizes the U.S. and the U.S.S.R. to deploy up to 100 ABM missiles on launchers for the defense of the national capital and 100 more for the defense of an ICBM area.)

Target acquisition and tracking are provided by two large, phased-array Dog House regional radars near Moscow. In addition, there are large, high-powered, phased-array Hen House early warning radars deployed around the periphery of the Soviet Union. The deployment of additional early warning radars is not prohibited by the ABM Treaty, provided the radars are deployed along the periphery of the national territory and are oriented outward.

Early in 1971, following a three-year lapse, new construction activity was begun at three previously abandoned ABM complexes near Moscow. Although the ultimate mission for these new facilities is not clear, we still believe the Soviet Union will complete the deployment of the Moscow ABM defenses up to the Treaty limit—six ABM radar complexes and 36 additional ABM launchers. Such deployment is expected to take place during the latter part of this decade. In this regard, Soviet ABM test firings continued during 1973. As already noted, it is postulated that two new systems are under development.

With regard to the U.S. ABM program, we now plan to complete the Grand Forks site with 100 missiles on launchers, a missile site radar, and a perimeter acquisition radar. This site is expected to be operationally ready by mid-1975.

As a hedge against the emergence of new threats which could gravely jeopardize our national safety, we plan to continue the development of the prototype of the Site Defense system through FY 1975 towards the demonstration in 1977 of an improved capability to defend our Minuteman force in the 1980s. Research also will be continued on new technological approaches to even more advanced ABM systems.

The strategic situation is still fraught with many uncertainties, particularly in light of the ICBM-MIRV development of the Soviet Union. It is only prudent, therefore, that we continue our efforts to advance our ABM technology to the full extent permitted by the treaty and retain the option to deploy a more advanced ABM system for the defense of the National Command Authorities or to

deploy a more extensive system should the ABM Treaty be abrogated for any reason.

As previously mentioned, the deployment of the long-range SS-N-8 SLBM has enlarged greatly the ocean areas from which an SLBM attack against the United States can be launched. Some of these areas are beyond the coverage of all of our existing SLBM detection systems. The highly reliable phased-array radar system being requested will provide the long-range detection and tracking capability required to insure adequate warning of an SLBM attack from these remote areas. It also will complement our satellite coverage in other areas. This is required because the satellite is blanked out under certain predictable solar conditions, thus allowing an SLBM to be launched without warning. Additionally, it is essential that the National Command Authorities be provided the highly credible warning data that can be obtained only with detection by more than a single physical phenomenon.

Our current projections of the U.S. air defense force have declined while the U.S.S.R. air defense forces are essentially the same as those I presented here last year. As a result of budget decisions, primary emphasis is being placed on airspace surveillance and peacetime control and warning of a bomber attack. AWACS development funding has been transferred to general purpose forces, although the AWACS still will be required to fulfill strategic, as well as tactical, missions. All existing Continental United States (CONUS) strategic air defense surface-to-air missiles (SAMs) will be phased out of operation by the end of FY 1974, although deactivation will not be completed until FY 1975.

All F-102 interceptors will be phased out by mid-1976, but 242 F-106s and 124 F-101s will be retained at least through mid-1976. Pending a review on the retention of the F-101s, this force could be maintained at about that level through the 1970s. As I indicated earlier, in crisis situations general purpose fighters and SAMs could augment CONUS defenses; but, of course, these are the same forces that frequently are deployed elsewhere in a crisis. Thus, the Soviet Union's commanding lead over the United States in numbers of air defense radar sites, command and control facilities, surface-to-air missile launchers, and interceptor aircraft is expected to increase.

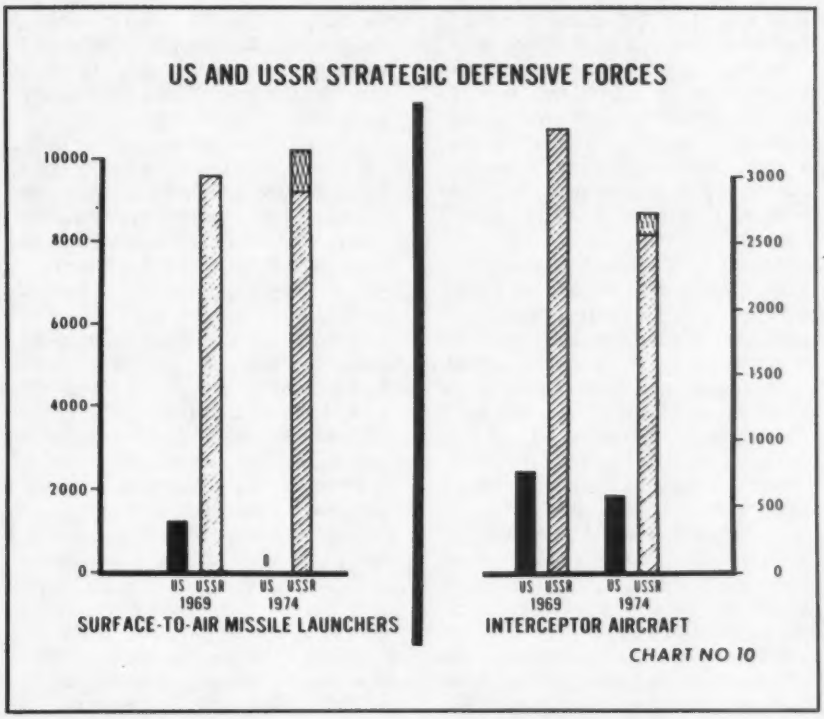
A Soviet Navy officer conducts a tour of the Soviet "Kotlin" class destroyer Skritorii for members of the U.S. Navy while both units were in port at Massawa, Ethiopia. The tour was conducted during the annual Ethiopian Navy Days celebration.

The first element of the modernized U.S. air defense warning and control system—the airborne warning and control system (AWACS) aircraft—will become operational in FY 1977. The second element—the over-the-horizon backscatter (OTH-B) radars—could become operational in FY 1980. As I have already noted, the U.S. is retaining the option of utilizing new general purpose force developments, such as the F-14, F-15, and SAM-D, in strategic defense roles, should this become desirable at a later date.

Shown on the right side of Chart 10 are the U.S. and U.S.S.R. home defense interceptor forces projected through mid-1974. The reductions planned in U.S. interceptor forces already have been noted. The Soviet force, although declining slowly in numbers, is being steadily modernized. By mid-1974, the four newest interceptors—Firebar (YAK-28), Fiddler, Flagon-A (SU-15), and Foxbat (MIG-25)—will account for about 50 percent of the force, while the two oldest interceptors—Fresco (MIG-17) and Farmer (MIG-19)—will account for only 25 percent. The Fishpot (SU-9/SU-11), introduced in 1959, accounts for the remaining 25 percent. The Flashlight (YAK-25) was phased out during the past year.

By the late 1970s, the Soviet Union may have interceptors with a look-down/shoot-down/radar/missile system, and may deploy a new AWACS with a look-down capability over land, as well as water. Such an interceptor/AWACS force could pose a formidable threat to our bombers. While we have no direct evidence of the existence of either system, we are hedging against this contingency with the development of a strategic cruise missile and electronic countermeasures, should these threats to our retaliatory forces materialize.

Shown on the left side of Chart 10 are the U.S. and U.S.S.R. home defense surface-to-air missile (SAM) forces.



The number of operational U.S. strategic SAM launchers will decline to zero at the end of FY 1974.

There was a slight decrease in the Soviet strategic SAM force during the past year; continued deactivation of SA-2 sites exceeded newly activated SA-3 and SA-5 sites. The SA-3 is a low-altitude system while the SA-5 provides long-range, high-altitude defense.

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P.R.C. Strategic Forces

The strategic offensive programs of the People's Republic of China (P.R.C.), when compared with the Soviet Union and the United States, represent a relatively small-scale, but well-conceived, effort. The overall strategic offensive capability of the P.R.C., however, is steadily growing and must be taken seriously even by the superpowers. The deliberate, but unhurried, pace of the P.R.C. strategic offensive programs reflects the comparatively small number of technically qualified personnel working on these programs, the relatively limited resources available, and finally, the influence of long-range goals, rather than short-term objectives.

As indicated last year, a substantial expansion of nuclear production facilities is underway in the P.R.C. For this reason, we estimate that the Chinese stockpile of nuclear weapons will be expanded more rapidly in the years ahead.

Last year, I outlined the four different P.R.C. strategic land-based missile programs and indicated that both a medium range ballistic missile (MRBM) and an IRBM system may have been deployed. This deployment can now be confirmed. The third system, a limited-range ICBM, is still not believed to be operational; however, it could be deployed later this year. Although capable of reaching deep into the Soviet Union, this missile will not be able to reach the Continental United States (except for the western part of Alaska).

The fourth P.R.C. system, a full-range ICBM, has not progressed as rapidly as we estimated last year. This large missile is in the same class as the U.S. Titan and the Soviet SS-9. It probably will not be operational until 1976 or 1977.

Forecasting the rate of progress of the P.R.C. SLBM program has proven to be a very difficult task. We believe that the P.R.C. is determined to develop a submarine-launched ballistic missile and a modern ballistic missile submarine; however, estimates of the operational dates for an SLBM and a new submarine have been, in the past, overly optimistic.

The P.R.C. has one Soviet-type Golf-class diesel-powered missile-launching submarine, which it built during the early 1960s; but to our knowledge, it has never been equipped with missiles. If the P.R.C. is indeed developing an SLBM, it is reasonable to assume that this submarine will be used as the test platform. No other operational P.R.C. ballistic missile submarines are known to us; however, we cannot preclude the possibility that one or more may be under construction. In any event, we believe that it will be at least 1977 before such a system could become operational.

Turning to the strategic defensive forces, we expect the P.R.C. to develop a modern all-weather interceptor during the next few years. As to the P.R.C. surface-to-air defense system, we believe it is capable of providing only a limited point defense of key urban and industrial areas, military installations, and advanced weapons complexes. Although this system has undergone significant upgrading in the past four years, it still has major weaknesses. The P.R.C. has only one operational SAM system, basically a copy of the U.S.S.R. SA-2 system. We estimate that the P.R.C., by mid-1973, had deployed several hundred SAM launchers and that this deployment will continue to increase during the next few years.

Overall U.S. and U.S.S.R. Strategic Balance

The overall strategic balance between the United States and the Soviet Union is in a state of dynamic equilibrium or in more familiar terms—relative strategic parity. The Soviet Union has, however, generated a momentum in new strategic offensive programs which, in the absence of successful negotiations or increased strategic offensive programs of our own, could easily upset this balance in the future. The U.S.S.R. holds a significant numerical and throw-weight advantage in missiles, but the U.S. today enjoys an equally significant counterbalance in areas of key qualitative importance—e.g., missile accuracy, MIRVs, submarine quietness, and underwater technology. Deployment of the 4,200 nm SS-N-8 has given the U.S.S.R. a temporary qualitative advantage.

The Soviet Union has developed a new supersonic bomber with intercontinental capabilities, but the United States will continue to retain, for a number of years, a significant advantage in the number of intercontinental bombers and in bomber payload. The U.S. maintains a significant advantage in ABM technology, but the U.S.S.R. has an operational ABM system and is continuing its research and development on new systems. The Soviet Union has an enormous advantage in air defense, but the U.S. currently maintains the technological and operational capability to penetrate these defenses, should it become necessary to do so.

The advantages in the strategic balance which the United States holds over the Soviet Union are primarily qualitative in nature and are in areas of high technology. For example, our radar technology is still superior to that of the Soviet Union. There are several other areas that could be mentioned, but these technological advantages are transitory at best and are partially offset by the larger warhead yields and missile throw-weight of the U.S.S.R. This Soviet throw-weight advantage is a key element because it facilitates the large-scale MIRV development, already underway at a rapid rate.

These examples are illustrative of the U.S. qualitative technological lead over the Soviet Union in areas impacting on the strategic balance. The Interim Agreement does not constrain either the Soviet Union or the United States from pursuing new technology nor does it limit modernization of strategic systems as long as the quantitative restraints are observed and the size of the ICBM silo launchers are not increased significantly. The relative military strategic balance is currently in equilibrium, but dynamic and fragile. The essential equivalency necessary to the preservation of peace is, therefore, neither self-perpetuating nor permanent.

It was for this reason that prior to the consideration of the ABM Treaty and Interim Agreement by the Congress, the Joint Chiefs of Staff enumerated the following three assurances which we regard as essential if the United States is to guard against degradation of its national security posture:

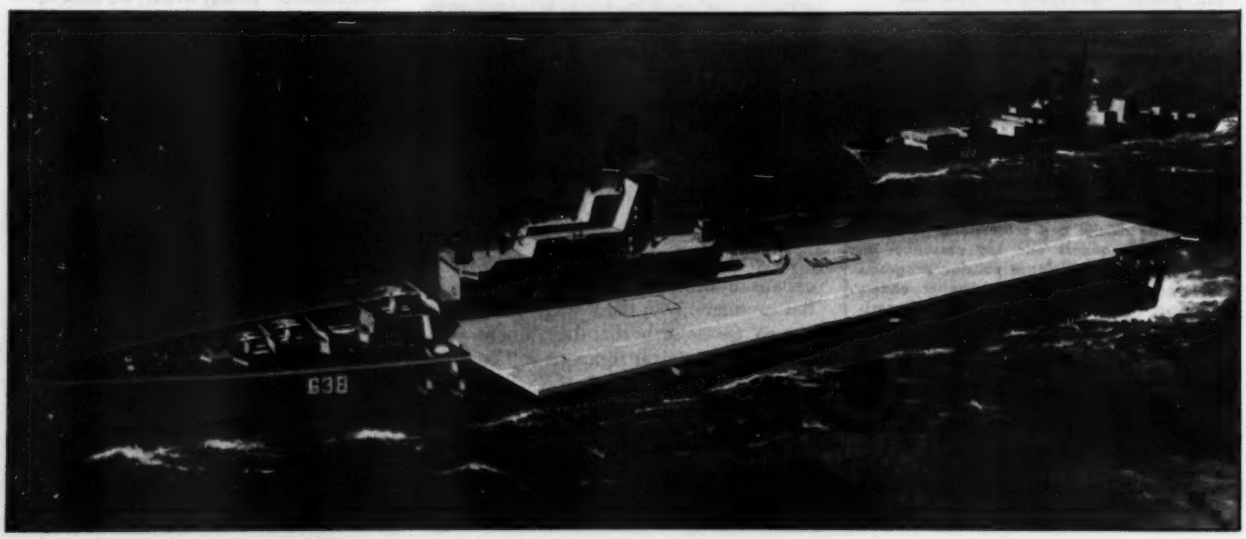
Assurance I—"A Broad Range of Intelligence Capabilities and Operations to Verify Soviet Compliance in a Strategic Arms Limitation Environment."

Assurance II—"Aggressive Improvements and Modernization Programs."

Assurance III—"Vigorous Research and Development Programs."

The Joint Chiefs of Staff remain firmly committed to these three assurances which are supported in the FY 1975 Defense Budget and the supplemental request for FY 1974. Assurances II and III are particularly pertinent to this discussion. If we fail to maintain weapons systems technological superiority or if we fail to maximize our strategic offensive capabilities within the constraints of our international obligations, we will find that the qualitative advantages we now hold will have evaporated and that the United States will be placed in a position of strategic inferiority, thereby risking both peace and freedom.

An artist's concept of the new Soviet aircraft carrier which is under construction. It is expected to be more than 900 feet long and will have some 45,000-ton displacement. In the background is the 405-foot long "Krivak" class guided missile destroyer.



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